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AUTHORITY

**AGO ltr 29 Apr 1980**

DEPARTMENT OF THE ARMY
OFFICE OF THE ADJUTANT GENERAL
WASHINGTON, D.C. 20310

IN REPLY REFER TO

AD 864889

AGDA (M) (19 Jan 70) FOR OT UT 693020 21 January 1970

SUBJECT: Operational Report - Lessons Learned, Headquarters, 36th Signal Battalion, Period Ending 31 July 1969

SEE DISTRIBUTION

1. Subject report is forwarded for review and evaluation in accordance with paragraph 4b, AR 525-15. Evaluations and corrective actions should be reported to ACSFOR OT UT, Operational Reports Branch, within 90 days of receipt of covering letter.

2. Information contained in this report is provided to insure appropriate benefits in the future from lessons learned during current operations and may be adapted for use in developing training material.

BY ORDER OF THE SECRETARY OF THE ARMY:

Kenneth G. Wickham

KENNETH G. WICKHAM
Major General, USA
The Adjutant General

1 Incl
as

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UNCLASSIFIED REPORT
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DEPARTMENT OF THE ARMY
HEADQUARTERS, 36TH SIGNAL BATTALION (CA)
APO San Francisco 96491

SCCPV-SG-CA-O 9 August 1969

SUBJECT: Operational Report of 36th Signal Battalion for Period Ending 31 July 1969, RCS CSFOR - 65 (R1)

SEE DISTRIBUTION

1. Section 1. Operations: Significant Activities.

a. The 36th Signal Battalion was engaged in the following activities:

(1) During this past reporting period, the 36th Signal Battalion site at Phuoc Binh relocated to a bunker previously occupied by the 53d Signal Battalion while continuing its support of elements of the 1st Air Cavalry Division and serving as a UHF radio terminal and relay between Quan Loi and Song Be. Company A/44, 36th Signal Battalion acquired responsibility for the 2d Signal Group site at Ham Tan from the 39th Signal Battalion. The Ham Tan site supports MACV Advisory Team 48 using VHF relay via Hill 837 to Bien Hoa. This is the only VHF system remaining in the 36th Signal Battalion. Although all other systems have been changed to AN/GRC-50 equipment, this particular system will only operate on the AN/TRC-24 Equipment because of distance and terrain difficulties. This system is marginal because of frequent VHF interference encountered due to its close proximity to the Saigon Area. The only bands that will provide even marginal communications are A and B bands. Terrain interference prohibits the utilization of higher bands. During the latter part of this reporting period Company A/44, 36th Signal Battalion replaced an AN/GRC-26D with an AN/GRC-142 at Ham Tan.

(2) The 36th Signal Battalion channelized the AAW-72 test system between Lai Khe and Cu Chi to supply communications support for elements of the 1st Air Cavalry Division. Also in support of the 1st Air Cavalry Division, the AAW-77 was established between Lai Khe and Phuoc Vinh. During the same period, the channelization, operation for two weeks, and subsequent deactivation of AAW-74 and AAW-75, was accomplished in support of elements of the 1st Air Cavalry Division. Due to the ICS cut-over at Di An, AAW-44, from Di An to Octupus was deactivated. During this period, Company B/44, 36th Signal Battalion replaced an AN/GRC-26D with an AN/GRC-142 at Song Be.

(3) In order to alleviate the amount of traffic through the Phu Loi Switchboard, the Lam Son (DARING) Switchboard was established. This is a two-position board which supports the MACV Advisory Teams of the 5th ARVN Division and US units in the Lam Son area.

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(4) A secure teletype circuit was established between the Bien Hoa Communications Facility and the Bien Hoa Army Area Communications Center. After approximately a month its routing was changed, thus terminating the circuit at the Long Binh Communications Center rather than the Bien Hoa Communications Center. This circuit was previously maintained by the 501st Signal Company of the 101st Airborne Division. The circuit was relocated from the 101st area to the A/44 36th Signal Battalion Communications Facility and is now maintained by the 36th Signal Battalion.

(5) The battalion recieved a large number of replacement personnel during this reporting period. Strength at the end of the previous reporting period was 22 officers, 9 warrant officers and 564 enlisted personnel. Strength as of 31 July 1969 was 26 officers, 9 warrant officers and 776 enlisted personnel. The organizational structure changed on receipt of STRATCOM General Orders deleting three enlisted spaces from HHC, 36th Signal Battalion and 15 enlisted spaces from the 595th Signal Company. These changes resulted from a civilianzation program which reduced military spaces and replaced them with authorization for local civilians. The savings program realized a decrease in participation from the previous reporting period. Savings Bond percentages dropped from 8.2% to 6.4%. The lower ratings indicate a need for additional emphasis by the Personnel Officer and Commanders. The difficulity with personnel utilizing the Uniform Soldiers Deposit is the amount of paper work involved, including the need for a commanders statement to verify the acquisition of funds before they can be deposited. This is avoidable only if the payee deposits his money immediately upon receipt. The majority of personnel utilizing the Uniform Soldiers Deposit are located in remote areas, not close to a finance office and their checks are sent directly to the bank. The additional requirements prevent it from being worthwhile and, in many cases, make it immpossible to take advantage of the additional interest rate.

b. See organizational chart (Inclosure 1)

2. Section 2. Lessons Learned: Commander's Observations, Evaluations, and Recommendations.

a. Personnel. None.

b. Operations.

(1) A need for a radio system between the sites.

(a) OBSERVATION: On numerous occasions a communications system between sites has failed and backup equipment will not restore the system.

Where this occurs intersite communications are nonexistant resulting in extensive restoral periods.

(b) EVALUATION: When communications systems fail between sites without backup communications, not only does service cease for the length of time that is required to reestablish the system, but it is extremely difficult or impossible to pass on coordinating instructions to the operators.

(c) RECOMMENDATION: That a radio system be installed and operated to insure continuity of communications service and aid in reestablishing a system outage.

(2) Installation of Parabolic Antennas and G-Lines.

(a) OBSERVATION: When ridge loaded antennas are placed near the top of a 200 foot tower, to provide line of sight communications, the receive signals will be below the minimum requirements.

(b) EVALUATION: The attenuation loss of coaxial cable is greater than that of G-Line when used at heights of 100 feet or more. The use of a parabolic antenna and G-Line yields a minimum amount of attenuation loss with a maximum amount of signal gained on an AN/GRC-50 radio system. The G-Line is used effectively with the ridge loaded horn antennas as well.

(c) RECOMMENDATION: That parabolic antenna and G-Line be used on AN/GRC-50 radio systems with antenna heights of 100 feet or more. G-Line used with ridge loaded horn antenna is more effective than coaxial cable at antenna heights in excess of 100 feet.

(3) Installation of a Krodon meter (locally adapted term)

(a) OBSERVATION: It has been observed in communications centers that a meter, which is located on the black side of the crypto distribution frame, and used to read the signal level, is difficult to read, because of its location.

(b) EVALUATION: This meter is flush mounted in the front of the panel. To make a reading a man must stand in front of the equipment and wait for a signal to be received. This occupies a man who could otherwise be doing another job, while remaining close to the equipment.

(c) RECOMMENDATION: Through the use of a jack, a relay, an AC power source, and a light bulb, a blinking light, locally known as a Krodon meter can be constructed and arranged so as to attract the attention of personnel in the area. An operator anywhere in the room can determine

if a phase is being sent and by the characteristics of the blinking light can approximate the distortion being received. A diagram describing its construction is attached as inclosure 2.

c. Training.

(1) RC-189/U Coaxial Cable Damage

(a) OBSERVATION: RC-189/U coaxial cable has often been damaged through improper handling by personnel working with or installing it. It is being improperly removed from the spool or is bent too sharply during installation.

(b) EVALUATION: Personnel working with RG-189/U are often unaware of its internal construction and the delicacy of the dielectric.

(c) RECOMMENDATION: That three 1-foot sections of RG-189/U coaxial cable with the covering and shield partially removed be mounted on a display board and be used as a training aid for all personnel concerned. One piece should show a normal piece of RG-189/U cable with the polyethylene and shield removed, displaying the dielectric in its normal position. Another piece should show the RG-189/U with a bend of approximatly 90 degrees, again showing the center conductor and the subsequent damage to the dielectric, particularly the change in spacing of the center conductor. The third piece should demonstrate the damage incurred when the RG-189/U is removed from the reel by spiraling it off, without unrolling it. This will graphically display how overbending and improper installation will cause permanent damage to the dielectric.

d. Intelligence. None.

e. Logistics.

(1) Sandbag Deterioration.

(a) OBSERVATION: Sandbags used in the construction of revetments and bunkers last a maximum of six months.

(b) EVALUATION: Deterioration of the sandbags is caused by weather conditions in Vietnam and by personnel contact. The plastic bags are adversely affected by what seems to be a chemical reaction caused by the sun, rain, and dirt.

SCCPV-SG-CA-O 9 August 1969

SUBJECT: Operational Report of 36th Signal Battalion for Period Ending 31 July 1969, RCS CSFOR - 65 (R1)

(c) RECOMMENDATION: That all revetments or bunkers be covered with chicken wire and a light covering of cement. If this is not available, Peneprime applied with a large brush is an excellent substitute. Either one of these methods increases the serviceability of bunkers and revetments and reduces the manhours spent to replace them every six months.

f. Organization. None.

g. Other. None.

C. E. McKnight Jr.

2 Incl
as

C. E. Mc KNIGHT JR.
LTC, SigC
Commanding

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1 - CG, 1st Signal Brigade (USASTRATCOM) ATTN: SCCPV-OP APO 96384

SCCPV-SG-CO (9 Aug 69) 1st Ind
SUBJECT: Operational Report of 36th Signal Battalion for Period Ending 31 July 1969, RCS CSFOR-65 (R1)

DA, HQ, 2d Signal Group, APO SF 96491 27 AUG 1969

THRU: Commanding General, 1st Signal Brigade (USASTRATCOM), ATTN: SCCPV-OP, APO SF 96384
Commanding General, USARV, ATTN: AVHGC-DST, APO SF 96375
CINCUSARPAC, ATTN: CPOP-DT, APO SF 96558

TO: Assistant Chief of Staff for Force Develpoment, Department of the Army (ACSFOR, DA), Washington, D.C. 20310

1. Subject report is forwarded in accordance with 1st Signal Brigade Regulation CCPVR 1-19, dated 12 July 1968 as changed.

2. The report has been reviewed and is concurred in by this Headquarters.

Edward D. Meares

EDWARD D. MEARES
Colonel, SigC
Commanding

SCCPV-OP-SD (9 Aug 69) 2nd Ind
SUBJECT: Operational Report of 36th Signal Battalion for Period Ending 31 July 1969, RCS CSFOR-65 (R1)

DA, HQ, 1st Signal Brigade (USASTRATCOM), APO 96384 13 September 1969

TO: Commanding General, United States Army Vietnam, ATTN: AVHGC-DST, APO 96375

1. Subject report is forwarded in accordance with USARV Regulation 525-15.

2. This headquarters has reviewed the report and concurs in it as indorsed with the following comments and/or exceptions:

a. Paragraph 2e(1), page 4. Acrylic sandbags used in bunker construction should not be coated with peneprime. Application of peneprime or other asphaltic material will lead to rapid deterioration of acrylic sandbags.

b. Protective marking "FOR OFFICIAL USE ONLY" on basic document is cancelled UP para 8f(2), AR 340-16.

FOR THE COMMANDER:

T. E. MULLENNIX
LTC, AGC
Adjutant General

CF:
Commanding General, United States Army Strategic Communications Command, ATTN: DCSOPS, SCC-OPS-RT, Fort Huachuca, Arizona 85613
Commanding Officer, 2nd Signal Group, APO 96491
Commanding Officer, 36th Signal Battalion, APO 96491

AVHGC-DST (9 Aug 69) 3d Ind
SUBJECT: Operational Report of 36th Signal Battalion for Period Ending 31 July 1969, RCS CSFOR-65 (R1)

HEADQUARTERS, UNITED STATES ARMY, VIETNAM, APO San Francisco 96375 2 OCT 1969

THRU: Commanding General, United States Army Strategic Communications Command-Pacific, APO 96557

TO: Commander in Chief, United States Army, Pacific, ATTN: GPOP-DT, APO 96558

1. This headquarters has reviewed the Operational Report-Lessons Learned for the quarterly period ending 31 July 1969 from Headquarters, 36th Signal Battalion (CA).

2. Comments follow:

a. Reference item concerning "Installation of Parabolic Antennas and G-Lines", section II, page paragraph 2b(2); nonconcur. Sufficient data is not available at this headquarters to recommend the procedure as a common practice. The unit is advised that an EIR should be submitted for proper evaluation by ECCM at Fort Monmouth, New Jersey.

b. Reference item concerning "Sandbag Deterioration", section II, page 4, paragraph 2e(1) and 2d Indorsement, paragraph 2a; nonconcur. The application of a lightly reinforced sand cement cover over sandbags is not recommended. Any projectile striking the cemented surface will cause spalling which may present additional hazards to the bunker occupants. In addition, the cemented covering conceals any void caused by failure of the sandbags due to deterioration or water intrusion. Although previous studies indicated that peneprime caused accelerated deterioration of sandbags, recent controlled tests indicate that the rate of deterioration for sandbags treated with peneprime is identical to the rate for those not treated.

FOR THE COMMANDER:

RICHARD W. [illegible]
CPT, AGC
Assistant Adjutant General

Cy furn:
36th Sig Bn
1st Sig Bde

GPOP-DT (9 Aug 69) 4th Ind
SUBJECT: Operational Report of HQ, 36th Signal Battalion for Period Ending 31 July 1969, RCS CSFOR-65 (R1)

HQ, US Army, Pacific, APO San Francisco 96558 21 OCT 69

THRU: Commanding General, US Army, Strategic Communications Command, Fort Huachuca, Arizona 85613

TO: Assistant Chief of Staff for Force Development, Department of the Army, Washington, D. C. 20310

1. This headquarters concurs in subject report, as indorsed, except as follows.

2. Reference paragraph 2(3)(c). The use of a Krodon meter on the black side of crypto equipment to determine rate of distortion must be investigated to insure compliance with COMSEC regulations.

FOR THE COMMANDER IN CHIEF:

D. A. TUCKER
CPT. AGC
ASST AG

CF:
DA, ACSFOR
CG, USASTRATCOM-PAC

SCC-PO-CERA (9 Aug 69) 5th Ind
SUBJECT: Operational Report of HQ 36th Signal Battalion for period ending 31 Jul 69, RCS CSFOR-65 (R2)

Headquarters, US Army Strategic Communications Command, Fort Huachuca, Arizona 85613 9 JAN 1970

TO: Assistant Chief of Staff for Force Development, Department of the Army, Washington, DC 20310

This headquarters has reviewed and concurs in subject report as indorsed with following exception and comments:

Reference: Section 2, para b(3), Installation of a Krodon Meter. Nonconcur with recommendation for following reasons:

(1) The insertion of a 600 OHM Relay Coil in series with the equipment reduces the 60 MA current level in the circuit.

(2) A TEMPEST hazard exists if the device is patched into a RED circuit.

(3) The conventional methods used in measuring telegraph distortion in stations throughout the DCS are considered more appropriate than the method proposed in referenced paragraph.

FOR THE COMMANDER:

R. A. Mall
R. A. MALL
Captain, AGC
Asst Adj Gen

CF: (w/o Incls)
HQ US Army, Pacific
CG USASTRATCOM PAC
HQ US Army, Vietnam
CG 1st Sig Bde
CO 2nd Sig Gp
HQ 36th Sig BN

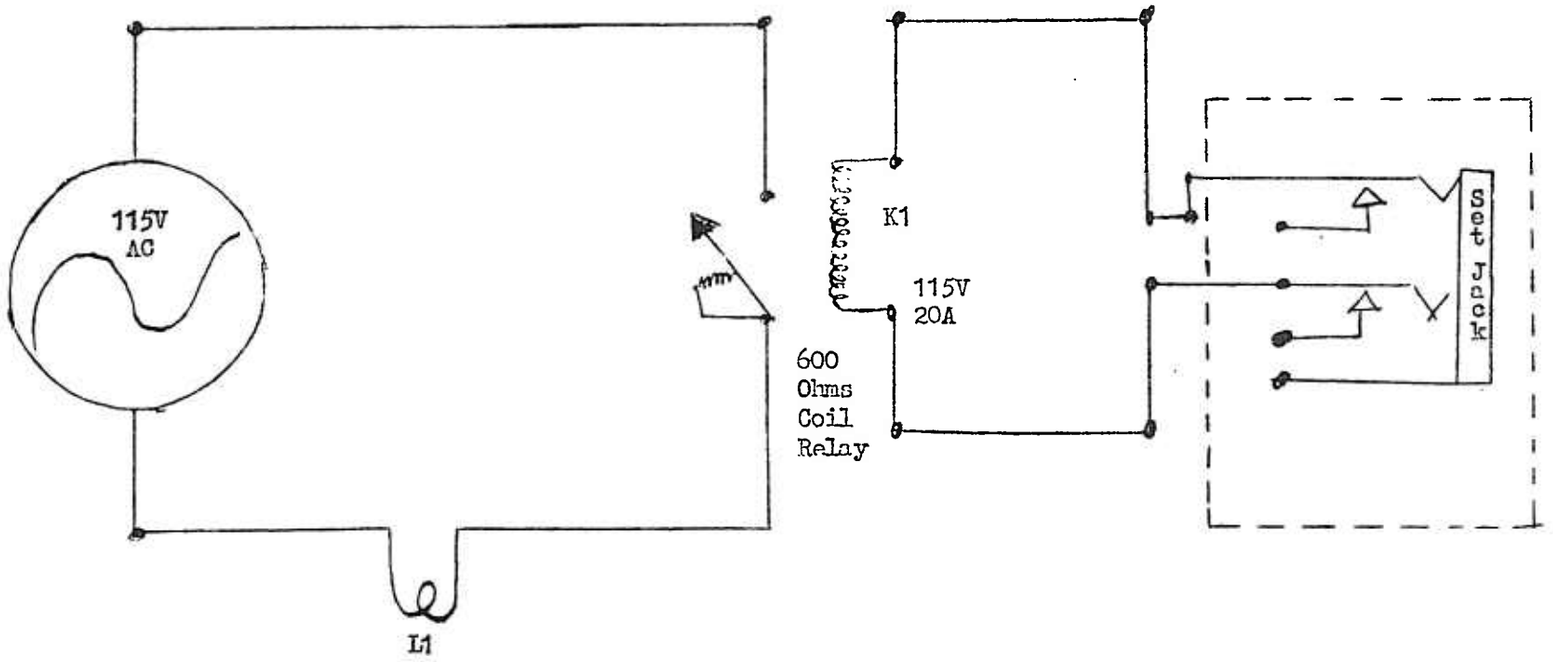
HEADQUARTERS
36th Sig Bn (CA)
595th Sig Co
(SPT)
36th Sig Bn (CA)
Company B/44
36th Sig Bn (CA)
Company A/44
36th Sig Bn (CA)
HHC
36th Sig Bn (CA)

Inclosure 1

Inclosure 2

12

KRODOM METER SCHEMATIC




Patch from set to loop in 60MA circuit. L1 will illuminate when 60MA is applied through K1, causing contact to close AC circuit.

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Experiences of unit engaged in counterinsurgency operations, 1 May 69 to 31 July 69.

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CO, 36th Signal Battalion

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